

WHAT IS CLAIMED IS:

1. A fuel injection system, comprising:

a fuel tank;

an electronically controlled fuel injection apparatus which is located above said fuel tank;

a fuel reservoir chamber which is located above said electronically controlled fuel injection apparatus;

a fuel introduce passage which connects said fuel tank and said fuel reservoir chamber;

a fuel pump which introduces fuel from said fuel tank to said fuel reservoir chamber via said fuel introduce passage;

a first fuel return passage which connects said fuel reservoir chamber and said fuel tank, and returns fuel overflowing from said fuel reservoir chamber and vapor to said fuel tank;

a fuel supply passage which connects said fuel reservoir chamber and said electronically controlled fuel injection apparatus;

a filter which is disposed at some midpoint of said fuel supply passage or in said fuel reservoir chamber, for eliminating vapor from fuel passing through said fuel supply passage; and

a second fuel return passage which returns surplus fuel from said electronically controlled fuel injection apparatus, and connects said electronically controlled fuel injection apparatus with at least either of said fuel reservoir chamber and said first fuel return passage at a position above the connecting position of said fuel reservoir chamber and said first fuel return passage.

2. The fuel injection system according to claim 1, comprising an inner

space which is formed in said filter, and a branch passage which branches from some midpoint of said second fuel return passage at a position below the connecting position of said first fuel return passage and said fuel reservoir chamber;

wherein said branch passage and said fuel supply passage are connected with said inner space of said filter, and said branch passage is horizontal or declined from the branching position from said second fuel return passage towards the connecting position with said inner space.

3. The fuel injection system according to claim 2,

wherein the connecting position of said branch passage with said second fuel return passage is the highest position, and the connecting position of said fuel supply passage of the downstream side than said inner space with said electronically controlled fuel injection apparatus is the lowest position, in the route from said branch passage through said inner space of said filter to said fuel supply passage of the downstream side; and

wherein the route from the highest position to the lowest position does not have a portion where the height is reversed.

4. The fuel injection system according to claim 2, wherein the inner diameter of said second fuel return passage above the branching position from said branch passage is equal to or larger than 12 millimeters.

5. The fuel injection system according to claim 4, wherein the inner diameter of said second fuel return passage below the branching position from said branch passage is smaller than that of said second fuel return passage above the branching position.

6. The fuel injection system according to claim 1, wherein a filter

which does not allow foreign particles to pass through but allows vapor to pass through is disposed at said second fuel return passage above the connecting position of said fuel reservoir chamber and said first fuel return passage.

7. The fuel injection system according to claim 1, wherein said fuel supply passage projects and opens above the fuel level in said fuel reservoir chamber, and a fuel inlet opening which is formed at said fuel supply passage below the fuel level in said fuel reservoir chamber is covered by a filter.

8. The fuel injection system according to claim 7, wherein a filter which does not allow foreign particles to pass through but allows vapor to pass through is attached to the projected opening portion at the upside of said fuel supply passage.